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Regional Predictors and Economic Incorporation of Immigrants: A Multilevel Exploration of Group Size Effects on Occupational Status of Immigrants in Greece *

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Abstract

A large amount of literature assesses the relationship between different regional/contextual predictors and aspects of the economic incorporation of immigrants. One neglected regional predictor is immigrant composition, namely the amount and size of immigrant groups present in a regional context. In this study we examine the effects of immigrant group size on the occupational status of immigrants from five national groups in Greece in the early decade of 2000. More specifically we include males and females from Albania, Bulgaria, Romania, Georgia and Russia. We use data from a random sample of the latest Greek population census and multilevel regression techniques in order to separate the effects of immigrants' individual characteristics from contextual factors related to their spatial location, with particular focus on the relative group size. Results partially support the *perceived economic threat / enclave entrapment theory* as well as the *economic competition theory*. According to the *perceived economic threat / enclave entrapment hypotheses* the occupational status of male immigrants from Albania and Bulgaria as well as of the female immigrants from Romania is negatively related to their proportionate size in a local setting. According to the *economic competition hypothesis* we find that the occupational status of male immigrants from Albania is inversely related to the relative size of the population of immigrants from Bulgaria, the occupational standing of female immigrants from Bulgaria is inversely related to the population of immigrants from Georgia whereas the size of immigrants from Albania has a negative effect on the occupational status of female immigrants from Georgia and Bulgaria.

Keywords: Relative group size, occupational status, economic integration of immigrants, Greece, multilevel regression analysis

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Introduction

Migration increased tremendously after the 1960s and migrants went to more destinations than before (OECD, 2001a). This has fuelled the public discussion over the consequences of migration in the receiving societies. The discussion focused primarily on the lack of economic integration of immigrants. Scholars relied on different micro and macro perspectives to identify the determinants of the economic integration of immigrants. On the micro level explanations have been derived from human capital theory, which explains the extent of immigrant socio-economic disadvantage from selection effects (Becker, 1964; Borjas, 1988) and from assimilation effects (Chiswick, 1978, 1979). Selection effects refer to migrants who are negatively selected and are thus disadvantaged because they lack human capital. Assimilation effects refer to the fact that the longer immigrants stay in a receiving society the more they acquire specific skills and competences that are valued in the receiving context, such as language or labour market experience (Chiswick and Miller, 2002). But human capital does not fully explain differences in socio-economic disadvantage between immigrant groups and receiving contexts (van Tubergen et al., 2004). Hence, some researchers have looked for macro level explanations of the socio-economic integration of immigrants in terms of more or less welcoming receiving contexts (Reitz, 1998). Other researchers have looked for contextual explanations on the side of immigrant communities, which may offer more or less favourable ethnic contexts for socio-economic attainment (Portes, 1986).

One context property which has received much research attention is related to the relative sizes of immigrant groups and their effects on the economic incorporation of these immigrant groups (Blalock, 1957; Frisbie and Neidert, 1977; Tienda and Lii, 1987; Lewin-Epstein and Semyonov, 1992; Telles, 1992, 1994; Chiswick and Miller, 2001; Powel and Buchmann, 2002). Empirical studies that have related immigrant group size to the degree of integration or acceptance have yielded mixed evidence in the sense that the significance and the direction of the group size effects depend on a number of background conditions. One condition that has been extensively documented is the simultaneous presence of other minority groups in a given local setting (Semyonov, 1988; Mc Creary et all, 1989; Model and Ladipo, 1996; Model, 1997; Model et al., 1999; Tolnay 2001).

In Europe, Kogan and Kalter (2006) have tested group size effects on the labour market performance of Turkish and Ex-Yugoslav immigrants in Austria using data from labour force surveys. In line with a queuing model of ethnic occupational

stratification, they find different size effects of immigrant in-group and out-group for low status Turkish and higher status Yugoslav immigrants. They conclude that seemingly contradictory positive or negative group size effects depend crucially on the ranking of immigrant groups in the ethnic queue. In this study we build on the Kogan and Kalter (2006) study by extending it in a number of ways. Firstly, we focus our attention on the case of Greece as a more recent and much less researched European migration context than Austria. Secondly, we extend the scope of the study of group size effects from two groups to multiple immigrant groups. Specifically, our study focuses on the five most numerous immigrant groups and the native population in Greece. Thirdly, we provide a more stringent test of group size effects by improving the specification of control variables to account for selection effects and for relevant context effects other than group size. Thus, we examine the way in which the occupational status of five immigrant groups in Greece is affected not only by the relative size of their own group but also by the sizes of the other immigrant groups.

Following the example of van Tubergen et al., (2004) our study combines perspectives from micro and macro levels in a double comparative design. Double comparative designs provide enhanced generalisation over different groups and contexts[1]. This is because these studies compare between multiple groups in multiple destinations (Model and Ladipo, 1996; Reitz, 1998; Model and Lin, 2002). This design provides the opportunity to better assess macro level effects on immigrant economic incorporation, while controlling for composition effects at the micro-level, as well as to test simultaneously context effects related either with the immigrant communities or the receiving contexts themselves (van Tubergen et al., 2004).

But our study also differs from van Tubergen's exemplary study of micro and macro level explanations of economic integration in its focus on local rather than national receiving contexts. Unlike most contemporary research that compares nations in order to investigate the way in which different contexts affect the economic incorporation of immigrants (Borjas, 1988; Reitz, 1998; Reitz et al., 1999; Model et

[1] Prior to double comparative designs, single comparative designs were widely used. These designs compare multiple groups in a given context and in this way highlight the importance of group differences (e.g. Borjas, 1999) or the same ethnic group in different contexts and thus focus on the importance of the context (e.g. Perlman, 1988). The problem with this kind of studies is that the prior category of results cannot be generalised over different contexts whereas in the later case there is limited generalisation for other groups (Van Tubergen et al, 2004).

al., 1999; Model and Lin, 2002) we choose to assess local characteristics. In addition, generally the number of western receiving countries in a cross-nation comparison is below 20 nations (Van Tubergen et al., 2004). In contrast one small or medium sized, national territory can include many more local contexts (Kogan and Kalter, 2006). This provides us with more statistical power to test the role of contextual predictors on immigrant economic incorporation.

To this end we make use of the public use 10% samples of anonymised records from the most recent 2001 Greek census (N=423.045). Fortunately the census data include sufficient numbers of economically active immigrants and natives in order to perform our analysis. The dataset also allows for a spatial disaggregation of the data at the level of administrative prefectures[2]. Unfortunately more fine-grained levels (e.g. municipality, neighbourhood, census unit) of spatial disaggregation were not available for the analysis.

In what follows we first describe the Greek setting with respect to the main immigrant groups, namely immigrants from Albania, Bulgaria, Romania, Georgia and Russia, the context of immigrant reception and the spatial distribution of immigrant population across the country. Then we review the main theoretical arguments with respect to the effect of relative group size on occupational status of immigrants. After, we describe the data used, the variables examined and the methods applied. In the results section we overview the study's main findings, both descriptive and multivariate. We conclude with the discussion section.

Migration and immigrants in Greece

Greece, like the rest of the southern Europe, belongs to the 'new' immigration countries of the EU. In these countries the flows of immigrants have been rapidly increasing alongside with high unemployment rates (Baldwin–Edwards, 2003). These countries all have extended informal economies which function as secondary labour markets and which are most often occupied by immigrants. Greece, has been ranked as the country with the largest "shadow economy" among the OECD members during the 1990s. Approximately 30 percent of the overall economic activity involves informal activities (OECD, 2001a).

The large influx of immigrants in Greece started right after the 1990s and has been rising ever since. In 2001 there were 762.191 persons officially resident in Greece without Greek citizenship, that is about 7% of the entire population. About

[2] This is a "NUTS III" level European Union regional classification.

690.000 of them did not come from the EU, other western countries or Cyprus (Baldwin-Edwards, 2004). This immigrant population is highly unbalanced between origin groups with 55.6% of the immigrant population coming from Albania, followed by much smaller groups of Bulgarian (4.7%), Georgian (2.9%), Romanian (2.9%) and Russian origins (2.3%), and many other and even smaller groups (Baldwin-Edwards, 2004). The majority of immigrants in Greece come form Eastern Europe[3]. Although some of the immigrant groups are almost exclusively male whereas some others are primarily feminised, the overall immigrant population is well balanced between genders. Additionally the immigrant population in Greece is younger compared to the natives. The representation in working age categories (15-64) is higher for immigrants (80%) compared to the natives (68%) (Baldwin-Edwards, 2004).

The highest relative concentrations of non-western immigrant groups can be found on specific islands (Mykonos, Kea, Skiathos, Zakynthos), in Attica and close to Athens, and on the North-Western Greek border (Baldwin-Edwards, 2004). The lowest ones are in the north-east of Greece and in a few economically disadvantaged regions of the country. The largest concentration of non-western immigrants can be found in the municipality of Athens – 132.000 immigrants. There the percentage of immigrants reaches 17% of the total population. The second biggest concentration is found in the municipality of Thessaloniki (27.000) but the relative size of the immigrant population here is much smaller, only 7% of the total population. According to some authors, the spatial pattern of immigrants in Greece follows the pattern of economic development, or as put by Martin Baldwin – Edwards (2004, pp. 5-6): *"Immigrants (in Greece) go where work is available, which tends to be in the economically developed regions".* In this respect the primary concentrations are found in Attica (the region that includes the metropolitan complex of Athens) and in tourist areas such as some islands. The only exception is the border region with Albania where large concentrations of Albanian immigrants can be found (Baldwin Edwards, 2004).

[3] There are, however, some smaller groups whose migration started earlier, around the early 1980s as a result of bilateral agreements and with the purpose of covering specific labour demands. Such groups are the immigrants from Egypt and Philippines. The needs that they were meant to cover were in the fishing industry and domestic services respectively. These groups, although for longer time in Greece have been outnumbered by the later eastern European groups.

Immigrant males are mainly occupationally concentrated in the construction, agricultural and industrial sectors. There is also some presence in tourism. Female immigrants are primarily concentrated in the domestic employment sector and at a lower degree in agriculture and tourism.

There is considerable evidence that local contexts make a difference in the reception and economic integration of immigrants in Greece. Local contexts differ in, among other factors, the size and composition of the immigrant population (ESYE, 2001; OECD, 2001a; OECD, 2001b; Baldwin-Edwards, 2004; EKKE, 2006). Lazaridis (2000) reports in her study of domestic workers from Albania and the Philippines in two different locations in Greece that the relative size of the immigrant population, through the associated labour supply, has an effect on immigrant unemployment. Thus, the city where immigrants work as well as the size of the immigrant community are crucial for their decision to opt for informal low status employment (Lazaridis, 2000).

The effects of local contexts in Greece for the economic integration of immigrants have not been systematically investigated so far. Due to the recent history of migration in Greece, the heavily undocumented character of its migration and the lack of extended quantitative data, empirical research about migration in Greece is limited. Moreover, most studies on immigrant economic integration did not simultaneously study multiple groups in different local contexts[4].

[4] Some studies, assess the economic integration of one group or immigrant category in one destination (Romaniszyn, 1996) or economic niche (Droukas, 1998) or both (Psimmenos, 1998). Another group of studies examine one group (Markova and Sarris, 1997; Valencia, 1995) or category of migrants such as return migrants (MacLean, and Koutsis, 1998; Vergeti, 1991), asylum seekers (Black, 1994), unregistered labour (Fakiolas, 2000) or female migrants (Tastsoglou and Hadjiconstandi, 2003) in different kind of destinations in Greece. Some studies investigate multiple groups in one context or sectoral environment (Lianos, Katseli and Sarris, 1996; Iosifides, 1997). Some studies, more into the field of economics, have assessed the overall effect of migration in the Greek economy without controlling either for the between group difference or the diversity of impact in different places and economic sectors (Sarris and Zografakis, 1999). Finally some studies have attempted to compare between groups together with the assessment in more than one contextual environments but the number of groups examined was very small (Lazaridis, 2000; Lazaridis, 1997; Lazaridis and Romaniszyn, 1998).

Theoretical expectations

Building on the Kogan and Kalter (2006) study in Austria, the question that we address is whether the relative (to the total population) size of an immigrant group affects the occupational status of its members but also the status of the members of the other immigrant groups present in a given local setting. The effect of the size of a group on the occupational achievement of its own members is called an *endogenous effect*, whereas the effect of the size of an immigrant group on the members of other immigrant groups present in the same local labour market is called an *exogenous effect*. This terminology was first introduced by Tolnay (2001) and was put to good use by Kogan and Kalter (2006). We derive competing hypotheses for the Greek case from five theoretical approaches, namely the *economic threat theory*, *the ethnic entrapment theory*, *the ethnic economic enclave theory*, *the economic competition theory*, and the *occupational queuing theory*. We start with the approaches that predict only endogenous effects of a group's size. Such effects are predicted by the *economic threat*, *economic entrapment* and *ethnic enclave hypotheses*. Then we briefly discuss the *competition theory*, which predicts only exogenous effects. Finally we develop the *occupational queuing theory*, which predicts both endogenous and exogenous effects of a group's relative size.

The *economic threat theory* has been developed by Blalock (1967). In this study various theories were integrated with empirical material referring to group relations mostly, but not solely, among African Americans and whites. According to this perspective the more an immigrant group grows in size, the more the native population perceives it as a threat (Quillian, 1995). A result of this feeling of threat is increasingly more discriminatory action on behalf of the natives. The outcome of this discriminatory action is gradually more restricted opportunities for occupational mobility in the labour market. Consequently, the more a group grows in size, the less well are its members expected to achieve in terms of occupational status. Blalock (1967), however, further argues that when a group is highly occupationally segregated, large concentrations of its members should pose less of a threat to the natives. The economic threat effect is therefore expected to be less pronounced when an immigrant group operates in an segregated occupational environment. In Greece there is clear occupational segmentation of the immigrant groups (see tables 6a and 6b). More specifically the immigrant groups are over-represented in sectors with a very small participation of the natives. We, therefore, were initially hesitant about expecting a pronounced effect of economic threat in Greece.

A growth of the size of an immigrant group is expected to also increase the material for the development of ethnic networks. In other words, the bigger an immigrant group is, the more extensive are the networks that will develop among its members. These networks are argued to have competing, positive and negative, effects. The *ethnic entrapment theory* predicts negative effects from the growth of the size of an immigrant group and the subsequent development of ethnic networks. Portes and Rumbaut (2001) refer to the negative social and economic effects often exerted by immigrants to other immigrants. According to their view, in an ethnically stratified society the development of networks beyond the ethnic communities, with the native born, is expected to provide more opportunities for occupational mobility. On the contrary, when immigrant occupational activity is confined in ethnic community networks then immigrants are lacking the networks of information or trust that would provide them access to employment beyond the niche or the niches where co-ethnics usually find employment (Portes and Rumbaut, 2001). And most often this is low status employment. For many of these immigrants employment of this kind means lack of opportunities to develop linguistic and professional skills that would allow them to move upwards. In this way they get “trapped” in these low status jobs (Portes and Zhou, 1993; Zhou, 1999). The *enclave entrapment theory* assumes low status employment as a result of attachment to networks of co-ethnics and lack of links with the native born. We have found no empirical evidence of attachment to networks of co-ethnics and lack of networking with the natives in Greece. We do, however, find evidence of persistent employment in the lower segments of the labour market such as unskilled agricultural or constructions labour for the men and unskilled domestic employment for the women. This indication could be consistent with an ethnic entrapment effect.

The *ethnic economic enclave theory* predicts the opposite effect, a positive relationship between group size and occupational status. As an immigrant group grows in size, so do the ethnic networks embedded in the relationships among its members. The more intense and extended the networks become the more the immigrants can benefit from the co-ethnic clientele, the pool of cheap and loyal co-ethnic labour, the cheap start-up and business extension capital provided by friends, family and informal credit organisations, but also from the entrepreneurial information circulating in ethnic networks. These immigrants will start their own businesses. Gradually they will extend their market segment beyond the ethnic community. The co-ethnic employees after acquiring enough skills and experience will start their own businesses. The largest the number of ethnic entrepreneurs, the more those middlemen will develop profit by economies of scale (e.g. common import activities

rather that imports done separately by every single entrepreneur) and resources based on cooperation and mutual trust. As their number grows the ethnic community cumulates gradually larger economic activity in its hands. This activity will boost the overall occupational status of the ethnic community. Large immigrant concentrations are, therefore, expected to have a positive effect on immigrant occupational status. This hypothesis is confirmed for Cuban immigrants in cities of the US (Portes and Bach, 1985), ethnic entrepreneurs in Australia (Evans, 1989) Arabs in Israel (Semyonov, 1988) second generation immigrants in the US (Portes and Rumbaut 1996) and Chinese immigrants in New York City (Zhou and Logan, 1989; Zhou, 1992). The ethnic economic enclave is expected to occur in very high immigrant concentrations where the immigrant population by itself can provide a big enough demand for special "ethnic" services (e.g. demand for ethnic food retail, call-centres etc.) or services directed to specific low income population (such as cloth repair services for example). When the immigrants expand their market segment beyond an ethnic clientele, then it is necessary that the ethnic entrepreneurial concentration can adequately embed in native economic networks. That is by either providing services to the native population or by undertaking a part of the production as sub-contractors. And for both of these categories of economic activities, cities are the most fertile settings. Thus the ethnic economic enclave effect is more likely in settings with urban character, in places with extremely high concentrations of immigrants or (most often) both. This assertion is confirmed by Tolnay (2001) in his analysis of data on the occupational standing of immigrants from Europe and African Americans in the cities of the American North in the 1920s. In Greece we do not have very high local concentrations of immigrants[5]. The highest urban concentration is in the municipality of Athens, and stands for 17% of the local population. But this municipality covers a relatively large area. In order to investigate the existence of ethnic enclaves in Athens we would need data aggregated at a more detailed level, ideally neighbourhoods or city blocks.

So far we have seen hypotheses about endogenous effects. Endogenous are the effects of the group size on the occupational attainment of its own members. The

[5] At the level of prefectures immigrant group concentrations never exceed 10% of the local population. And this is quite rare. The percentages of local concentration reach the 10% only for the group of the Albanians and only in one case[5]. This is totally non-urbanised area where none of the municipalities exceeds the population size of 20.000. For the rest of the groups the biggest relative sizes in a prefecture are: Bulgarians 2.28%, Romanians 1.75%, Russians 0.87%, and Georgians 1.81%[5].

economic competition hypothesis (Stevans, 1998) predicts negative effects from the increase of an immigrant group size on the occupational attainment of the other immigrant groups in a given local context. Since the immigrant groups compete for the same jobs at the lower end of a labour market an increase in the size of any of those groups will threaten the access to employment for all the groups. This theory does not predict any endogenous effects. Stevans (1998) supports these argumentation with findings of reduced wages among indigenous minorities and older immigrants after the occupational crowding with new immigrants in the US. In the Greek case there is a clear occupational segmentation of immigrants. Not all the immigrant groups do the same jobs but all the groups do different jobs than the natives. For example, the largest occupational concentration of male Albanian workers is found in unskilled agricultural and fishing jobs. The same holds for the Bulgarian and Romanian males. The Russian and Georgian males demonstrate higher concentrations in skilled construction jobs. For females of all the groups the highest concentrations are found in the same employment sector namely unskilled domestic services. So, the conditions for development of ethnic competition are there. Additionally, Lazaridis (2000) in her ethnographical study of Filipina and Albanian domestic workers in Zakynthos acknowledges ethnic occupational competition between women of those two groups.

Finally, the *occupational queuing theory* (Thurow, 1975; Lieberson, 1980) makes predictions about the effect of a group' s relative size both on its members but also the members of other groups. According to this theory the jobs in a labour market are ranked according to their prestige and desirability. The members of different immigrant groups queue for the same jobs in the lower end of the labour market. The queuing hierarchy is determined by the ethnic preferences of the employers. In other words, workers from some groups may be more preferred than workers from some other groups and the most preferred workers should be in front of the less preferred ones in the queue. Additionally, it is assumed that immigrant workers operate in a relatively segmented labour market. This assumption means that immigrant workers will not occupy higher status jobs left vacant by their native born counterparts.

In his study of income distribution in American labour markets Thurow (1975) asserts that employers hire employees giving priority to those who will take less to train on the job. Although he didn't study immigrants or compared immigrants with natives his study has some implications about the hierarchy of workers from different immigrant groups according to their perceived qualities and efficiency. Lieberson (1980) assesses the occupational standing differences among European origin immigrants and native blacks in the US. Blacks, he asserts, were less favoured

compared to Europeans and therefore placed behind them in the queue of workers waiting to be hired. Kogan and Kalter (2006) find a pattern of group size effects on immigrant occupational status that clearly confirms the predictions of the occupational queuing model. A similar mechanism is argued and documented by Model (1997) in her study of six groups of non–whites in London and New York. Building on Kogan and Kalter' s (2006) elaboration of the queuing model, we develop below the way in which the queuing model predicts group size effects in a multiple group setting like Greece.

When the most preferred group grows in size, Kogan and Kalter (2006) argue, so does the number of its members participating in the labour market. An increase in the size of the most preferred group means potentially a largest labour market share. But this extension on the labour market share is not toward higher status employment but towards lower status jobs. Since the immigrants are occupationally segregated from the natives then the members of the most preferred group cannot occupy higher status jobs since the natives occupy this kind of employment. The members of this extending group will, therefore, occupy lower status positions that were so far occupied by subordinate groups. This is easy for them since they are more preferred than the subordinate groups by the employers. In this way the workers from the most preferred group will displace immigrants from the less preferred groups to even lower status employment or even unemployment. As a result the average employment status of both the most preferred but also the subordinate groups will be suppressed (Kogan and Kalter, 2006).

On the contrary when the least preferred group grows, so does its share in the labour market. This may not be so easy as it is for the most preferred group members that can easily displace members from less preferred groups. But the surplus labour of this group will gradually occupy higher status jobs left vacant by workers of the more preferred groups. This is the so-called spill-over effect (Mc Creary et al., 1989; Semyonov et al, 2000; Kogan and Kalter, 2006). Through this process the members of the least preferred group occupy even higher status positions and as a result the average occupational status of the group increases. But also the members of the more preferred groups are gradually pushed by this spill-over effect to higher status employment. In this way the status of both the least preferred and the most preferred groups increases by an increase in the size of the least preferred group.

In a setting with more than two immigrant groups the effects of an increase in the size of intermediate groups are ambiguous. When an intermediate group increases in size some of its members will spill-over in higher status employment and some will

displace workers from less preferred groups from lower status employment. In this respect the net effect for the average status of this intermediate group will depend on the balance between the upward spill-over effect and the displacement of workers in lower status employment. For this reason we cannot predict a certain effect from the growth in size of intermediate groups. But since the surplus labour from this group will embed in the labour market in those two ways we can assume that an increase in the size of an intermediate group will result in an upward pressure for the average status of the groups in front of it in the queue and a suppressive pressure for the occupational status of the groups behind it.

Table 1. Predictions of different theories for endogenous and/or exogenous group size effects

Perceived economic threat / enclave entrapment theories					
	% Russians	% Georgians	% Romanians	% Albanians	% Bulgarians
Russians	-				
Georgians		-			
Romanians			-		
Albanians				-	
Bulgarians					-
Ethnic enclave theory					
	% Russians	% Georgians	% Romanians	% Albanians	% Bulgarians
Russians	+				
Georgians		+			
Romanians			+		
Albanians				+	
Bulgarians					+
Economic competition theory					
	% Russians	% Georgians	% Romanians	% Albanians	% Bulgarians
Russians		-	-	-	-
Georgians	-		-	-	-
Romanians	-	-		-	-
Albanians	-	-	-		-
Bulgarians	-	-	-	-	
Occupational queuing theory					
	% Russians	% Georgians	% Romanians	% Albanians	% Bulgarians
Russians	-	+	+	+	+
Georgians	-		+	+	+
Romanians	-	-		+	+
Albanians	-	-	-		+
Bulgarians	-	-	-	-	+

A number of studies in the U.S. focus on the presence of indigenous minorities and their labour market competition with immigrant groups (Tienda and Lii, 1987; Model and Ladipo, 1996; Tolnay, 2001). In the Greek case the indigenous minorities exist, but they do not seem to compete with immigrants. Indigenous Rom are either confined to marginal economic activities or small scale street trade (Rinne, 2002).

The Turkish minority is geographically confined to specific regions in the northeast of Greece. These regions feature very small immigrant presence.

In this section we explicitate the hypothetical mechanisms through which the size of an immigrant group may affect the occupational status of its members but also the occupational status of other immigrants in a given local context. We have seen five theories namely *the economic threat theory, the ethnic entrapment theory, the ethnic economic enclave theory, the economic competition theory,* and *the occupational queuing theory*. These theories allow competing predictions of occupational status differences in the Greek case (see table 1). Since the queuing model of employer preferences is derived from Thurow' s resource investment argument, and since we have no data about the ethnic preferences of Greek employers, we have derived the a priori ranking of the five immigrant groups in Greece in the occupational queue from their average level of education as a rough indicator of aggregate human capital in immigrant groups. Roughly then, Russians, especially women, and Georgians have higher levels of human capital than native Greeks and should hence be the most preferred groups at the top of the queue. In contrast, at the bottom end of the queue Albanians and Bulgarians have the lowest levels of human capital and should therefore be least preferred by employers. Finally, with their intermediate levels of education, Romanians are the intermediate group.

Method

In order to test our hypotheses we use data from a sample of the Greek 2001 national-scale population census. The data were collected on the week March 11-17, 2001 throughout the Greek territory. These data contain information on the individual employment and migration (for immigrants) characteristics of 1.028.899 respondents (approximately 10% of the population of Greece). After selecting the national groups (immigrants and native respondents) that we include in our study and the economically active population the entire size of the dataset size falls to 423.045 respondents. Out of them 22.214 are immigrants from Albania, 2453 are immigrants from Bulgaria, 1515 are immigrants from Romania, 1578 immigrants from Georgia, 1216 immigrants from Russia and 394.079 are native born respondents.

State survey data are extremely difficult to acquire in Greece due to restrictions over confidentiality of individual information. Although many state organisations and agencies collect data over employment or migration[6] these data are not available in

[6] Such as the ministries of interior and employment.

micro data form. Only recently has ESYE (the National Statistic Service of Greece) made a random census sample available in micro-data form. In this respect these are the only data available for a multivariate micro-data analysis of immigrant economic integration in Greece. But, census data often contain limited information on immigrants and no information on undocumented immigrants. Much effort was spent in overcoming these issues in the 2001 census. An effort was made to cover many aspects of individual's employment and migration. Similarly, the possible reluctance of immigrants to be interviewed for the census was lowered by a public advertisement and communication campaign trying to convince immigrants that their data would be treated completely confidentially. This seems to have been effective (Baldwin-Edwards, 2004). In the light of these we may conclude that the data in our possession were the only available option for this kind of analysis. Moreover, much effort has been spent in order to provide a satisfactory quality and overcome the usual problems of census data.

In this study we compare the occupational status of immigrants from five groups to that of their native born counterparts. Occupational status is derived by assigning each respondents ISCO 1988 three digit code, with a score on the ISEI scale (International Socio-Economic Index of Occupational Status). This scale refers to the financial rewards that an occupation offers for its required educational level (Ganzeboom et al., 1992; Ganzeboom and Treiman, 1996). In this way the occupational status reflects the quality of the occupation that immigrants from different groups do. Over-presentation of an immigrant group in low socio-economic status jobs can be considered as an indicator of a lack of immigrant incorporation in the host economy. Therefore, the socio-economic status provides an index of the degree to which immigrants integrate in the Greek economy and gives us an idea of the segments in the economy in which immigrants are active.

From all the independent variables we focus on the relative sizes of the five immigrant groups (percentage of Albanians, Bulgarians, Romanians, Georgians and Russians). In order to asses hypothetical effects of relative group sizes on the occupational status of immigrants of different groups we include cross-level interaction terms of the group membership and relative immigrant group sizes in a specific locality.

The localities are differentiated according to the European Union NUTS III regional code. The number of localities is 54, and they mostly overlap with the administrative units of prefectures[7].

In addition to national origin, we control for a number of individual characteristics that have been shown to influence socio-economic attainment in micro-level studies of immigrant integration (Becker, 1964; Chiswick, 1979; Borjas, 1988). To identify immigrant groups, the model includes nationality which may be native Greek or member of another national group, Albanian, Bulgarian, Romanian, Georgian or Russian. In addition, relevant demographic information such as age[8] and marital status (single, married, and a category that includes divorced, widowed and separated respondents) has also been included. We use a variable that reflects the highest educational qualification attained by each respondent. For this purpose we recoded the original 13 category educational classification included in the census data to a six category classification. This classification resembles most the CASMIN educational classification (Shavit and Muller, 1998) but is also comparable with the Greek educational system. The categories of this classification were: *no primary education, primary education, junior highschool (primary + 3 years), highschool (primary + 6 years), vocational training, tertiary education*. A dummy variable is used to indicate whether an immigrant respondent has completed tertiary education in Greece. For immigrants we also include variables reflecting years since migration, and return migrant status.

A number of relevant contextual characteristics are included in order to control for local differences in the socio-economic attainment of immigrants as compared with natives. The local GDP per capita as well as the proportion of unemployed (out of the economically active) are used as measures of the overall economic prosperity and the labour market climate. The gross added value of different economic sectors is used to control for the differences in the productive scheme of different local

[7] The only exceptions are the urban complexes of Athens, Pireas and Thessaloniki, as well as the units East Attiki and West Attiki which are subdivisions of prefectures but by themselves constitute separate NUTS III units. The prefecture of Attiki is divided in four Regional units two of which are Athens and Pireas. The rest is divided in two units namely East Attiki and West Attiki. Apart from these exceptions all other Greek administrative prefectures overlap with one regional NUTS III unit. One of the Prefectures / NUTS III units, Mount Athos, has been distorting our analysis due to the fact that it is only inhabited by male monks and there is an extremely small amount of economically active people there. Because of these peculiarities it has been excluded from our analysis.

[8] We have also included a quadratic term.

contexts. Dummies with the size of the municipality of residence are also included. Communities with less than 20.000 inhabitants are labelled as *Small Towns – Rural Areas*. Municipalities with more than 20.000 and less than 164.000 inhabitants are labelled as *Medium Cities*. The urban complexes of Athens and Thessaloniki are labelled as *Metropolitan areas*[9].

Due to the disproportionately big size of the native group compared to the immigrant groups, main effects of control variables would mainly reflect effects on the native population. As distinct from Kogan and Kalter (2006) and with a view to improve our controls for the immigrant population therefore, we have included differential effects of individual and contextual control variables. To this end, we specified interactions of all control variables with immigrant origin. Thus, the model allows a most stringent test of group size effects on immigrant attainment.

Because of the hierarchical structure of the data (individuals clustered in localities) we use multilevel regression analysis. In previous research the impact of micro and macro level factors has often been estimated using ordinary regression analysis. But in this way the error terms at the macro level are neglected and the standard errors of the parameters are underestimated. Support for macro level hypotheses resulting from this kind of analysis may therefore be unjustified (Snijders and Bosker, 1999; Van Tubergen et al, 2004). The use of multilevel technique allows us to measure the variance both at micro (individual) and macro (prefecture) levels. At the “micro” level the variance is explained by individual control variables such as group membership, demographic characteristics, immigration characteristics and education. At the macro level the variance is explained by contextual level predictors such as the size of the community where one lives, the wealth and the labour market climate, the relative group sizes of the five groups included in the study as well as the sizes of different sectors of economic activity. Furthermore, multilevel models allow us to specify cross-level interactions between individual group membership and group sizes as a contextual variable.

Finally, we need to correct for possible selection bias related with the fact that not everyone is employed (Heckman, 1979; Berg, 1983). Given the size of the dataset, fitting a multilevel model with sample selectivity as described by Rabe-Hesketh and Skrondal (2005) is not feasible. To deal with possible problems from sample selectivity, we use a two-step procedure, that resembles Heckman's two-step estimation method. First we fit a probit regression for employment using the individual level predictors *nationality, age, marital status, education,* as well as *return*

[9] In those variables we assigned the natives with a structural zero.

migrant status and *tertiary education in Greece* for immigrants and *motherhood of a child below 6 years* and *motherhood of a child below 12 years for females*. Second we include the inverted Mills ratio in a multilevel regression model, with a random effect of prefecture.

Results

Descriptive statistics

We have compiled descriptive figures for selected variables of the different comparison groups and present them in table 3. For all the groups included in our study, except the Russians and the Bulgarians, the number of males exceeds that of females. This difference is most pronounced for the Albanians where the gender ratio is about 3/1 in favour of males. The difference in favour of the women is most pronounced among the Bulgarians whereas as far as the immigrants from Russia are concerned the difference between the genders is very small.

The next item featured in table 3 reflects the highest educational qualification attained. All immigrant groups are more represented in the educational categories “no primary education”, “junior highschool (primary education + 3 years)“, “completed highschool (primary education + 6 years)“ compared to the natives. This holds both for males and females. In the category “completed primary school” all immigrant groups, except Bulgarian males, have lower concentrations compared to their native counterparts.

The immigrants are represented in the category “completed vocational training” in smaller percentages than the natives. The less pronounced difference with the natives holds for the Russian group. This difference is almost negligible. The “vocational training” educational category is important with respect to the skilled manual professions that immigrants often do. And with respect to education for skilled manual professions the immigrants are almost always less qualified than the natives.

Some groups feature higher percentages of tertiary education graduates compared to the natives whereas the other groups have lower percentages. Females from Russia and Georgia are more represented among the university graduates compared to the native females. As far as the overall gender differences are concerned, the males are more represented in the lower educational categories whereas the females are more represented in the two (for Georgians, Romanians Russians, and native born) or three higher educational categories.

We also have data on whether the tertiary education qualifications of the respondents have been acquired in Greece. From all immigrant groups, Russians of both genders have more often academic degrees from Greek universities followed by the Georgians and Bulgarians of both genders, Romanian females and Albanian males. The Romanian males and the Albanian females have least often Greek academic qualifications. For all the immigrant groups the females are more often holding a degree from a Greek university.

With respect to employment, the Albanians, Bulgarians and Romanians are more often employed than the natives. The Russians and Georgians are less often employed than the natives. For all the groups, except immigrants from Georgia, men are more often employed than women.

The vast majority of immigrants is located either in one of the two metropolitan areas, or in small cities and rural areas. For immigrants from all groups but the Bulgarians the relative concentrations in metropolitan areas exceed those of the natives and in all cases immigrants are less concentrated in intermediate cities compared to the natives.

Immigrants from Russia and Georgia are most often return migrants, whereas immigrants from Albania demonstrate the lower percentages in this category.

Just like the natives, the majority of the immigrants of our sample is married. In line with the pattern of the native population less immigrants are single and just a very small number are either widowed, divorced or separated.

Immigrants are much more concentrated in unskilled employment compared to the natives. The group with the biggest concentration in unskilled employment is immigrants from Bulgaria (both for males and females). The immigrant group with the lowest concentration in unskilled employment is immigrants from Russia (both for males and females). Additionally for all the immigrant groups, females have always lower average occupational status compared to males. This does not hold for the natives where the opposite is true.

We assess the occupational status hierarchy through the ISEI scores assigned to the respondents according to their profession. All the groups have lower average status compared to the natives and this holds regardless of gender. Among the immigrant groups the Russian males and females have the highest average ISEI scores. Georgians males have the second higher ISEI scores compared to other male immigrants, and Romanian females the second highest among female immigrants. Immigrants from Bulgaria score the lowest both for males and females. Among the natives, females score higher than males with respect to occupational status. Among immigrants only Romanians feature a similar pattern. This seems to

be the result of a small number of high status health professionals among Romanian females, which boost the overall average occupational status of the group. The rest of the male immigrants feature higher average ISEI scores compared to females.

On average Russian males have the longest stay in Greece whereas the Romanian males have the shortest one.

All the immigrant groups have lower average ages compared to the natives and this holds both for males and females. Between the immigrants, Romanian females demonstrate the lowest average age. Russian females demonstrate the higher average age.

We also compiled descriptive data regarding the occupational concentration of immigrants (see tables 6a and 6b). The occupational concentration information have been derived from the ISCO-1988 classification code assigned to the census respondents according to their stated profession in Greece. Unlike the natives, immigrants are confined to specific segments of the labour market such as domestic employment for females and unskilled agricultural and fishing employment, skilled construction jobs, unskilled mining and construction jobs for the males. Only the Albanians, the Bulgarians and the Russians seem to have penetrated some occupational niches with relatively high concentration of natives, namely the niches of skilled sales and skilled mobile machinery operation employment. Still, the vast majority of all the male immigrants is confined in unskilled and/or construction employment.

Multivariate analyses

To explore the effects of relative group size on occupational status we perform multivariate analyses. We analyse occupational status separately for men and women. At the individual level in addition to nationality we are controlling for the effect of predictors such as age, marital status, and level of education. For immigrants we have also included year since migration, return migrant status, and the acquisition of tertiary education in Greece. With respect to these immigrant specific variables the native born Greeks have been assigned a structural 0. This technique has been used by a number of studies of economic incorporation of immigrants in order to control for predictors where the native necessarily feature a missing value (Kogan and Kalter, 2006). We also control for a number of contextual predictors such as the size of the city where one lives, the local gross domestic product per capita, the local level of unemployment, and the local percentage of the gross product of different economic sectors. In this section we firstly discuss net effects of group membership on the basis of nationality. We go on to discuss effects

of the control variables either at the individual or contextual level. Unless specified otherwise these effects are in the same direction for males and females. Then we turn to the hypothesised endogenous and exogenous relative group size effects. In tables 4a, 4b and 4c we describe the effects of the different control predictors for native born and immigrant males and females.

The values of the unexplained variance indicate that there is hardly any unexplained variance at the level of prefecture after our stringent controls. In addition, most significant effects of individual control variables are in the expected direction in light of earlier findings from micro level research on immigrant economic attainment (Becker, 1964; Borjas, 1987, Chiswick, 1978, 1979).

Occupational status rises with highschool or higher educational attainment whereas it descents with no primary or only primary education. Respondents with tertiary education degrees, vocational training or highschool degree perform better with respect to socio-economic status compared to those who have only finished junior highschool (primary education + three years). Those respondents who have only completed primary education or those who have not completed primary education do less well compared to the reference category. For immigrants these effects are less pronounced but the overall effects for them are in the same direction with the natives.

We find a positive curvilinear relationship of age with occupational status for natives. For immigrants the effect of age is reversed so that younger immigrants do better than older ones.

Married or formerly married males do better in the labour market as compared to their single counterparts. For native women the reverse is found so that single women are doing better. For immigrant men the positive effect of being married is less pronounced.

With respect to the effect of immigrant characteristics on immigrant occupational outcomes, the occupational status seems to increase with time in the receiving country. The longer the immigrants live in Greece the better they do with respect to occupational status. It also appears that return migrants[10] do better compared to those who do not have a similar property. Additionally immigrants who have acquired

[10] The census questionnaire includes a relevant item in its immigrant section. The question is whether immigrants are “ομογενείς” or not. This term means “of common (to the native Greeks) descent”. “Ομογενείς” are most often coming from Eastern European countries (Baldwin-Edwards, 2004).

a degree from a Greek university tend to perform better than those who either do not have a university degree or hold one from their country of origin.

The results further show that there is sample selection bias in the analysis of the occupational status of immigrants in Greece. We can infer this because we get a statistically significant coefficient with inverted Mill's ratio after performing a heckmans selection regression of ISEI on the individual level predictors Group, Ysm, age, marital status and education). Consequently there is selection bias with respect to employment for immigrants of both genders in Greece and the analysis would have suffered from sample selectivity biases had we conducted an ordinary multilevel regression.

We also control for different contextual characteristics. We start with the effects of the size of the city where one lives. For native females living in a metropolitan city has a negative effect for occupational status compared to living in an intermediate city. For immigrant females this effect is positive. For both native and immigrant females living in a small city or rural area has a negative effect compared to living in medium size city. The effect is less pronounced for immigrant females. For native and immigrant males we find no significant effect of living in a metropolitan area. For both living in a small city or rural area has a negative effect compared to living in a medium size city but this negative effect is less pronounced for immigrants.

Occupational status increases with living in a prefecture with high GDP per capita. But this is an effect that holds only for males and there is no difference between natives and immigrants. Females tend to have higher occupational status in areas with higher unemployment. This effect is the same for natives and immigrants.

We also control for effects related to the proportion of different economic sectors in the local gross product. For male natives we find a positive effect between the occupational status and the per capita product of sectors such as "mining/quarrying", "fishing", "hotels/restaurants", "financial intermediation" and "public administration/defence/compulsory social security" sectors. For male immigrants we find a stronger positive effect for all these sectors except "financial intermediation". Additionally, for male immigrants we find a positive relation between socio-economic status and the sectors "manufacturing", "wholesale and retail trade", "education" and "private houses with employed persons".

For female natives we find a positive effect between the occupational status and the per capita product of sectors such as "mining/quarrying", "fishing", "hotels/restaurants", "financial intermediation" and "public administration / defence / compulsory social security" sectors. For female immigrants these effects are more

pronounced for the sector “financial intermediation”. For female immigrants we also find positive effects of the sectors “health and social work” and “agriculture”.

Finally we find overall main effects of the size of immigrant groups on the occupational status of the natives. More specifically, we find negative significant main effects of the percentage of Bulgarians living in a prefecture on occupational status. We only find this effect for males. Therefore the occupational status of the natives declines in prefectures with a high proportion of immigrants from Bulgaria, other things being equal.

To test the theoretical hypotheses on group size effects we specified cross level interactions of group membership with immigrant group sizes (see tables 2, 4c). After most stringent controls, we find a limited number of significant interaction effects between being an immigrant and the relative size of ones own group as well as the size of other immigrant groups. We find positive effects of the relative group size of Russians on female immigrants from Albania, Romania and Bulgaria. We find negative effects of the relative group size of Albanians and Georgians for female immigrants from Bulgaria. We also find negative effects of the relative group size of Albanians for immigrants from Georgia. Finally, we find significant exogenous effect for female immigrants from Romania.

For males we find two negative endogenous effects. First, we find a negative effect of the relative group size of Albanians. Secondly, we find a negative effect of the relative group size of Bulgarians. For males we also find a significant exogenous effect. More specifically we find negative effect of the percentage of Bulgarians for the occupational status of immigrants from Albania.

The *perceived threat – enclave entrapment theories* predict five endogenous effects for each gender in the context of our study (see table 1). Two out of five (2/5) possible endogenous effects for male immigrants and one out of five (1/5) possible endogenous effects for female immigrants are significant and in the direction assumed by the *perceived threat - enclave entrapment theories*. Overall we get three out of ten (3/10) effects in favour of the *threat / entrapment theories* and no effects in the opposite direction (see table 2).

The *competition theory* predicts 20 significant exogenous effects for each gender in the context of our study (see table 1). One out of twenty (1/20) possible exogenous effects for male immigrants and three out of twenty (3/20) possible exogenous effects for female immigrants are found significant and in a direction predicted by the *competition theory*. However, three out of twenty (3/20) possible exogenous effects for female immigrants are found significant and in the opposite direction than the one predicted by the *competition theory*. Overall we get four out of twenty (4/20)

significant effects in the direction predicted by the *competition theory* and three out of twenty (3/20) in the opposite direction (see table 2).

The *occupational queuing theory* would make predictions for twenty exogenous effects and two endogenous effects for each gender (see table 1). For female immigrants two out of the twenty-two (2/22) possible effects are found significant and in the direction predicted by the *occupational queuing theory* whereas two out of these twenty-two possible effects are found significant and in the direction predicted by the *occupational queuing theory*. Overall, we find more effects rejecting the *occupational queuing theory* than confirming it (2/22 confirming / 04/22 rejecting) (see table 2).

Finally, the *ethnic economic enclave theory* would make predictions for five endogenous effects for each gender in our study. However, we find no significant endogenous effects in the direction predicted by this theory.

Table 2. Endogenous and exogenous groups size effects for immigrants in Greece

	% Russians	% Georgians	% Romanians	% Albanians	% Bulgarians
Females					
Russians	2.42	-0.66	-1.35	-0.23	-3.88
Georgians	5.25	-2.56	-2.22	**-1.36**	-0.92
Romanians	**22.98**	0.15	**-5.58**	-0.59	-2.06
Albanians	**8.28**	-1.91	-2.72	-0.16	-0.60
Bulgarians	**14.03**	**-3.85**	-2.29	**-1.10**	-1.94
Males					
Russians	-5.49	-0.44	-5.36	-0.16	1.09
Georgians	-1.38	-0.13	-2.90	-0.46	0.47
Romanians	0.69	1.60	-0.27	-0.19	-1.76
Albanians	2.47	0.10	1.65	**-0.34**	**-1.18**
Bulgarians	1.80	0.64	1.37	-0.11	**-3.06**

Note: significant coefficients at 5% are in bold.

Discussion

The effects of relative group size on the occupational status of immigrants have for long now been studied in the traditional immigration societies such as the United States. Little attention has been paid in this kind of effects in the European context. In this study we attempt to fill a part of this gap. We examine the effects of relative group size of five immigrant groups on the occupational status of their members. More specifically we are building on Kogan and Kalter' s (2006) study of the effects of relative group size on the occupational status of immigrants from Ex-Yugoslavia and Turkey in Austria. This study finds evidence in support of an occupational queuing hypothesis. Assuming that immigrants from Ex-Yugoslavia stand in front of

immigrants from Turkey in the occupational queue the study finds evidence that a growth of the size of the Yugoslavs has a negative effect both on their own average occupational status as well as to the average occupational status of immigrants from Turkey. On the contrary a growth in the size of immigrants from Turkey has a positive effect on the average occupational status of both the Turkish and the Ex-Yugoslavian groups. Extending Kogan and Kalter' s (2006) study to a multiple group setting in a much less researched European context, we use the case of Greece in order to test competing theories about the effect of relative group size on occupational status.

The process of the economic incorporation of immigrants in Greece can be summarised in two basic points referring to main group and gender differences. Firstly, all immigrant groups are marked by gross disadvantage when their occupational attainment is compared to that of natives (see table 3). However, gross disadvantage disappears in the model after controlling for main and differential effects of human capital as individual characteristics and economic opportunities on the receiving contexts and taking into account differential selection of immigrant groups into employment (see table 4a). Most immigrants work in separate segments of the labour market from the natives. Additionally, unemployment rates, although overall high in Greece, are lower for the immigrant groups that seem to be more disadvantaged in terms of occupational status. Immigrants from Albania, Bulgaria and Romania do the worse jobs with respect to the occupational status but they demonstrate lower unemployment rates compared both to immigrants from Georgia and Russia as well as natives.

Secondly, immigrant groups differ in human capital. Some of them are better qualified than natives on average, such as immigrants from Russia and Georgia, and some rather less so, such as immigrants from Romania, Albania and mostly those from Bulgaria. The most disadvantaged groups are more often employed than natives and much of their occupational disadvantage derives from their taking up jobs at the lower end of the job market that natives do not want to do (Baldwin-Edwards, 2003). This is probably why the net immigrant disadvantage turns positive (but also not significant) after Heckman's correction. For male immigrants different groups work in different segments of labour market, with partial overlap between some groups. For female immigrants these segments are much more overlapping, but Russian women are an exception to this.

In our assessment of the effects of relative group size on occupational status we use material from five theories. The *perceived economic threat*, *enclave entrapment,* ethnic *economic enclave*, *economic competition* and *occupational queuing theories* offer a number of hypotheses with respect to the way that the relative size of an

immigrant group affects the occupational status of its members (endogenous effects) and/or that of the members of the other immigrant groups (exogenous effects) in a given local setting.

With regard to endogenous group size effects, our empirical findings partially support the predictions of the *perceived economic threat – enclave entrapment* theories. But also the ethnic economic enclave and the occupational queuing hypotheses predict endogenous effects. We do not, however, find any significant positive endogenous effects as we would expect in the brackets of the *ethnic economic enclave* hypothesis. We also do not find positive endogenous effects for immigrants from Russia and/or negative endogenous effects for immigrants from Bulgaria as would be expected from an occupational queuing perspective.

The *"perceived economic threat – enclave entrapment"* theories assert that the more a group grows in size the worse its members perform in terms of occupational status. Both of the scenarios included by this prediction could be feasible in the Greek context. There is certain evidence of economic threat mechanisms. The increase in migration towards Greece has been accompanied by increased perceived threat towards immigrants and primarily against those of the lowest status and the biggest cultural distance with native Greeks such as Albanians, Bulgarians and Romanians (Pavlou, 2001). It can be the case that due to the negative climate against immigrants in Greece the occupational mobility of immigrants from the respective groups is restricted in areas where the natives are feeling further threatened due to the large sizes of immigrants and exercise discrimination in the workplace. But there is also evidence of ethnic occupational stratification between the natives and immigrants. In this scenario the embeddedness of immigrants in networks of co-ethnics could be resulting in further occupational isolation. The immigrants invest more in networks of co-ethnics and therefore miss valuable links with the natives and the higher status employment of the mainstream labour market. Unfortunately we cannot further disentangle the causes of this pattern of effects as our data do not include items on either perceived threat / experienced discrimination – or on different kinds of social capital resources, networks and distance with the natives. Had this kind of information been included in our data we would have been able to explore whether this pattern of exogenous effects is originating from either discrimination on behalf of the natives or attachment to networks comprised only of co-ethnics.

Turning to exogenous group size effects, all significant effects, except for the effect of Russian group size for female immigrants, are in line with the *economic competition theory*, and so is the overall pattern (including also the non-significant

effects). But exogenous effects are also predicted by the *occupational queuing theory*. As opposed to Kogan and Kalter in Austria, we find more evidence against the *queuing theory* model in Greece rather than in support of it. We find little evidence of exogenous effects from the growth of groups with a higher position in the occupational hierarchy and no positive exogenous effects from the growth of groups with a lower position in the occupational hierarchy. On the contrary we find some positive exogenous effects of the relative size of groups with a higher position in the occupational hierarchy and one negative exogenous effect of the size of a group with a subordinate position. We find twice as much effects against the *occupational queuing theory* than we find in favour of it.

The *occupational competition theory* assumes overlapping ethnic niches or competition for jobs in the same segments of the labour market. This is largely the case for all immigrant women that we have included in our study except the more highly qualified and advantaged Russian female immigrants. The rest of them are competing mostly for the very same jobs and that can be seen from the very large percentages of female immigrants in the sector of domestic employment (see table 6b). This competition among immigrant women for the same jobs seems to be responsible for generally negative pattern of exogenous effects. On the other hand, the overlap of occupational niches is more selective for immigrant males. Especially immigrants from Albania and Bulgaria seem to compete largely for the same employment in unskilled agricultural and fishing employment, unskilled mining and construction as well as specific kind of skilled construction work. At the same time these two groups demonstrate similar qualifications, average ISEI and unemployment scores as well as similar pattern of spatial distribution. All these indicate a similar mode of incorporation in the Greek labour market. Therefore, it is not by accident that competition yields two significant exogenous effects only between these two lowest status groups, immigrants from Albania and Bulgaria who compete for unskilled agricultural or construction work (see table 6a).

But there is still no explanation for the positive effects of immigrants from Russia on the occupational status of female immigrants from Albania, Romania and Bulgaria. This may largely be due to hidden skills that have not been adequately controlled for in our model. According to the *human capital theory* (Becker, 1964), the success or failure of immigrants in the labour market depends on observable and unobservable skills (Borjas, 1987; Chiswick 1978, 1979). The *observable skills* refer to properties such as education, and labour market experience. This kind of properties we have controlled for. But they also refer to properties such as language proficiency. For this observable property we have not controlled for as such items

have not been included in the census data that we are using. The *unobservable skills* refer to individual properties that are more difficult to record. Such properties are ability, motivation and talent. Related items do not exist in our census data, nor have we been able to proxy for them with some other items. But there is one more property that we have failed to capture in our controls. This is the level of networking with the natives. In ethnically stratified contexts, being able to establish connections with the native population can be equivalent to accessing jobs beyond the ethnic segments (Portes and Zhou, 1993; Zhou, 1999).

Possibly, what we see in the positive effects of the relative size of Russians on female immigrants from Albania, Romania and Bulgaria is a positive selection effect. This is a selection of immigrants with these "hidden" characteristics (proficiency in the native language, unobservable skills such as ability, motivation or talent or higher degree of networking with the native population) for the members of more disadvantaged groups who also live in the same, mostly urban, areas where least disadvantaged Russians live. Moreover, the size of Russian effects should be disregarded as this is the smallest and not very dispersed group. This is reflected in relatively large standard errors for the exogenous effects.

Disentangling this selection mechanism and the unobserved properties of the selected immigrants should be one of the aims of forthcoming research. This will take two things. Firstly, one will need data that include more information on the individual properties of the immigrant respondents, including language proficiency, distance and networks with natives as well as some indicators of unobserved human capital qualities. Survey data providing in-depth information about many aspects of immigrant's life and employment – including information on their linguistic skills and social networks - are extremely rare in Greece. It is widely agreed that this kind of data would contribute much to an understanding of the procedures and mechanisms of economic incorporation of immigrants in Greece (Baldwin-Edwards, 2004). Secondly, it will take spatial aggregation units that can depict more precisely the areas with big concentration of immigrants from Russia as well as their very characteristics that trigger this selection mechanism. Thirdly, different - ethnographic - methodologies may have to be employed in order to provide a deeper perspective of the selection mechanisms and help formulate new hypotheses regarding the nature of this effect.

But apart from explaining the unexpected positive effects of the relative group size of immigrants from Russia, future research should also provide a more clear view of the hypotheses that have been partially confirmed here. For instance, in this study we have found some support for the perceived threat – enclave entrapment

hypotheses. Both theories would assume effects in the same direction. But our data do not allow for a conclusion on whether it is *perceived threat* or *enclave entrapment* that produces this pattern of effects. Answering this question requires revealing the mediating role of either threat by the natives and consequently labour market discrimination or that of isolation from the natives that further results isolation from the mainstream labour market. In order to answer this question we need information on possible workplace discrimination experienced by the respondents as well as information on their social networks and whether these networks are comprised of natives or other immigrants.

A further objection should be made with respect to the spatial aggregation unit. The units used in this study were the prefectures - NUTS III. But these units could be too gross to capture some of the procedures theorised here. A such example is the ethnic enclave effect. The *ethnic economic enclave theory* assumes very high concentrations of immigrants in small urban clusters. So in order to effectively test the ethnic enclave hypotheses one should use smaller units, ideally city blocks (Kogan and Kalter, 2006). Future versions of census data in Greece will provide this opportunity[11], and researchers should utilise it for a more precise theory test.

Finally the findings from our study deviate to a large degree from the findings of Kalter and Kogan (2006). Unlike Kalter and Kogan we do not find evidence of an occupational queuing model but rather evidence of the *economic threat – enclave entrapment* effects as well as of *economic competition*. This deviation can perhaps be attributed to the different characteristics of the study contexts. Firstly, Greece and Austria differ largely with respect to the degree of segmentation of their labour markets. In Austria although immigrants seem to operate in occupational niches they are not isolated from the niches where the natives mostly work and they can even claim employment in the public sector (Kalter and Kogan, 2006). In Greece immigrants do jobs that are largely unwanted by the natives (Baldwin-Edwards, 2003) and the possibilities for occupational mobility beyond these segments are extremely limited (Iosifides, 2001; Lazaridis, 2000). This difference may lead to increased competition between the ethnic groups for the same limited employment positions. Additionally the short history of migration in Greece may have some implications about the way in which the natives classify the occupational qualities of immigrants in Greece. In Austria there is a clear pattern of occupational queuing hierarchy based on the employers preferences (Kogan and Kalter, 2006). In Greece,

[11] This has been argued by the National Statistical Service of Greece stuff after personal communication.

however, this occupational hierarchy seems to be much more blurred. Despite our in-depth literature review we were unable to find empirical evidence of varying preferences for different immigrant groups. Additionally, the fact that the vast majority of immigrants in Greece come from eastern Europe possibly makes their differences less discernable for the natives.

But the differences in findings may also have a methodological background. Kogan and Kalter (2006) investigate the relative group size effects among two groups of immigrants namely immigrants from Turkey and Ex-Yugoslavia. In our study we applied much more stringent controls and applied the theories to longer “queue” of immigrant groups. We controlled for a larger amount of individual and contextual differences. Additionally we controlled for remaining differences in the effect of the control variables with respect to the immigrant groups. This was in the form of interactions between the property of being an immigrant and the control variables. Finally we investigated the endogenous and exogenous effects of relative group size for five instead of two groups. The differences in findings may well be due to the differences in model specifications as well as the fact that we look at multiple groups, which is a more complex setting.

But we also find much less significant effects than Kogan and Kalter (2006) even though we include a bigger amount of groups. This may be so for the same reasons that we do not confirm the findings of Kogan and Kalter (occupational queuing) in the Greek context. On the one hand due to recent migration in Greece employers may not have a very clear representation of immigrant skills, and therefore no clear preferences. On the other hand this may be due to context characteristics. The more segmented employment pattern of immigrants in Greece may have implications for less perceived threat on behalf of the natives and also less ethnic competition. But the smallest amount of significant effects may again be related with our model’s specification. The fact that we also control for differential effects of control variables at individual and prefecture level takes out much of the differential economic integration we want to explain and makes it much harder to find significant effects of ethnic composition. Moreover, the fact that we included nationality in Heckman's selection equation, which is also not done by other researchers, takes out differential employment of immigrants, which is an important aspect of their economic integration.

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Appendix. Tables

Table 3. Descriptive figures for the five groups and the natives (economically active population has been selected)

	Albanians		Bulgarians		Romanians		Georgians		Russians		Natives	
	Males	**Females**	**Males**	**Females**	**Males**	**Females**	**Males**	**Females**	**Males**	**Females**	**Males**	**Females**
N	16502	5708	1098	1355	997	516	857	721	606	610	243539	150536
Education recoded to 6 categories												
- Not completed primary school (%)	6.7	4.5	9.5	5.5	4.8	3.3	4.9	3.9	5.6	4.4	2.7	2.9
- Completed primary school (%)	27.4	20.7	28.9	20.7	14.9	10.3	16.6	12.2	14.9	7.7	27.6	22.7
- Completed junior highschool (primary + 3 y) (%)	25.0	22.7	21.3	19.6	18.9	12.8	21.9	14.2	20.0	13.8	11.5	7.8
- Completed highschool (primary + 6 y) (%)	33.2	39.8	30.4	35.9	54.7	54.8	40.4	35.2	39.1	36.1	33.8	32.6
- Completed vocational training (%)	1.6	2.5	2.9	4.1	2.1	3.7	2.9	6.4	4.6	6.6	4.6	8.4
- Completed tertiary education (%)	6.2	9.9	7.0	14.1	4.6	15.1	13.3	28.2	15.8	31.5	19.9	25.6
Completed tertiary education in Greece (%)	1.5	2.8	1.7	4.4	1.4	3.9	2.6	5.8	3.0	7.2	-	-
Employed (%)	93.2	87.5	92.8	91.1	94.9	87.2	85.0	85.3	85.6	85.6	90.0	86.5
City size												
- Metropolitan areas (%)	40.6	54.0	25.0	39.6	39.7	43.4	55.9	64.5	56.3	59.0	38.7	43.6
- Medium size cities (%)	14.0	14.7	9.6	13.4	9.2	13.8	16.5	14.8	14.7	15.4	19.4	19.8
- Small cities/rural areas (%)	45.4	31.3	65.5	47.0	51.1	42.8	27.7	20.7	29.0	25.6	41.9	36.6
Return migrants (%)	0.2	0.5	4.3	4.6	4.2	9.4	27.4	24.8	39.8	29.7	-	-
Marital status												
- Married (%)	59.6	75.5	62.7	57.1	47.5	57.6	67.9	57.8	69.3	53.4	63.3	61.4
- Single (%)	39.2	18.0	33.2	20.3	49.6	31.6	30.2	25.0	27.9	24.4	33.3	29.7
- Widowed, divorced or separated (%)	1.3	6.4	4.1	22.6	2.9	10.9	1.9	17.2	2.8	22.1	3.4	9.0
Unskilled job (%)	32.3	55.4	49.3	60.2	35.8	44.6	24.5	50.8	19.0	36.2	5.5	6.4
ISEI Score (mean)	26.9	22.8	24.2	21.9	26.5	27.2	28.8	23.6	32.2	29.3	40.2	42.7
YSM (mean)	6.5	6.5	4.7	4.6	4.2	4.7	5.5	5.5	7.2	6.4	-	-
Age (mean)	33.2	34.2	35.2	38.5	31.8	31.5	36.9	37.8	36.9	37.5	40.8	38.5
% Albanians at prefecture (mean)	4.6	4.8	3.9	4.2	4.5	4.4	3.1	3.6	4.1	4.2	4.0	4.1
% Bulgarians at prefecture (mean)	0.4	0.4	0.8	0.6	0.7	0.6	0.4	0.4	0.4	0.4	0.4	0.4
% Georgians at prefecture (mean)	0.2	0.2	0.4	0.3	0.2	0.2	1.0	0.9	0.6	0.5	0.3	0.3
% Romanians at prefecture (mean)	0.3	0.3	0.4	0.4	0.5	0.4	0.1	0.2	0.2	0.2	0.2	0.2
% Russians at prefecture (mean)	0.3	0.3	0.2	0.2	0.2	0.2	0.5	0.5	0.4	0.4	0.3	0.3

Source: 10% sample data from the 2001 Greek population census.

Table4a. Individual level control variables. Multilevel regression of ISEI for immigrants and natives of both genders in Greece – Relative group size effects included

	Model 1: Males			**Model 2: Females**		
	Estimate		**Std. Error**	**Estimate**		**Std. Error**
Native born	Ref.			Ref.		
Albanian	6.76		7.68	2.95		14.05
Bulgarian	7.09		7.88	7.49		14.11
Romanian	7.75		7.94	7.67		14.25
Georgian	10.04		7.89	8.15		14.34
Russian	13.03		7.93	9.75		14.21
YSM	0.19	(***)	0.02	0.44	(***)	0.03
Age	0.26	(***)	0.05	0.45	(***)	0.04
Age sq. /100	-0.17	(***)	0.05	-0.40	(***)	0.05
Married	0.77	(***)	0.10	-1.22	(***)	0.17
Single	Ref.			Ref.		
Div./Wid./Sep.	0.43	(***)	0.14	-1.78	(***)	0.17
Return migrant	0.01	(***)	0.00	0.01	(***)	0.00
Education level:						
No primary	-7.49	(***)	0.16	-8.94	(***)	0.23
Primary	-4.50	(***)	0.08	-6.11	(***)	0.14
Junior highschool	Ref.			Ref.		
Highschool	4.81	(***)	0.08	7.82	(***)	0.13
Vocational	9.03	(***)	0.13	11.49	(***)	0.17
Tertiary	24.45	(***)	0.09	24.31	(***)	0.13
Academic educ. Greece	3.77	(***)	0.71	5.78	(***)	0.78
Individual level differential effects (Interaction between being an immigrant and control variables)						
Imm. X Age	-0.36	(***)	0.06	-0.82	(***)	0.09
Imm. X Age sq./100	0.31	(***)	0.07	0.65	(***)	0.11
Imm. X Married	-0.66	(**)	0.24	-0.37		0.39
Imm. X Single	Ref.			Ref.		
Imm. X Div_Wid_Sep	-0.04		0.69	0.55		0.55
Imm. X No primary educ.	5.50	(***)	0.40	8.01	(***)	0.75
Imm. X Primary	3.38	(***)	0.24	5.49	(***)	0.44
Imm. X Junior highschool	Ref.			Ref.		
Imm. X Highschool	-3.89	(***)	0.23	-6.22	(***)	0.38
Imm. X Vocational	-7.49	(***)	0.63	-6.89	(***)	0.78
Imm. X Tertiary	-18.15	(***)	0.40	-16.08	(***)	0.53
Inverted Mill's ratio	3.07	(**)	1.10	4.80	(***)	1.24

Note: (**) : significant coefficients at 5%, (***) : significant coefficients at 1%.

Table4b. Multilevel regression of ISEI for immigrants and natives of both genders in Greece (Relative group size effects included): Contextual level control variables.

	Model 1: Males		Model 2: Females	
	Estimate	**Std. Error**	**Estimate**	**Std. Error**
Metropolitan city	-1.06	0.55	-1.18 (**)	0.51
Medium city	Ref.		Ref.	
Small city / rural area	-3.32 (***)	0.07	-3.38 (***)	0.10
GDP per capita/100	0.01 (**)	0.00	0.00	0.00
% Unemployed	0.05	0.04	0.09 (**)	0.04
% of Albanian immigrants	-0.13	0.09	-0.03	0.08
% of Bulgarian immigrants	-0.73 (**)	0.36	-0.63	0.34
% of Romanian immigrants	0.77	0.58	1.02	0.55
% of Georgian immigrants	-0.43	0.50	-0.32	0.48
% of Russian immigrants	-0.13	1.06	0.18	1.00
Proportion of different economic sectors in the local gross product				
% Fishing	0.52 (***)	0.14	0.44 (***)	0.14
% Mining/quarrying	0.18 (**)	0.09	0.23 (**)	0.09
% Manufacturing	0.05	0.04	0.04	0.04
% Constructions	0.07		0.03	0.04
% Wholesale / retail trade	0.08	0.06	0.08	0.06
% Hotels / restaurants	0.20 (***)	0.07	0.15 (**)	0.07
%Transport / communication	-0.03	0.09	-0.04	0.08
% Financial intermediation	0.37 (***)	0.08	0.28 (***)	0.08
% Real estate & business	0.08	0.05	0.05	0.05
% Public administration etc.	0.35 (***)	0.12	0.23 (**)	0.11
% Education	0.08	0.09	0.09	0.08
% Health and social work	-0.01	0.11	-0.12	0.10
% Community, social and personal service activities	-0.23	0.14	-0.18	0.14
% Private households	-0.25	1.14	1.33	1.09
% Agriculture	0.00	0.05	-0.07	0.05
% Extra-territorial org.	Ref		Ref	
Contextual level differential effects (Interaction between being an immigrant and control variables)				
Imm. X Metropolitan city	-0.89	0.60	2.63 (**)	1.13
Imm. X Medium city				
Imm. X small city/rural area	-1.52 (***)	0.28	2.19 (***)	0.48
Imm. X GDP per capita/100	0.00	0.01	0.01	0.01
Imm. X Unemployed	-0.01	0.06	-0.06	0.10
Imm. X Fishing	0.90 (***)	0.19	0.51	0.35
Imm. X Mining/quarrying	0.37 (**)	0.14	0.30	0.27
Imm. X Manufacturing	0.17 (**)	0.07	0.24	0.14
Imm. X Constructions	-0.02	0.07	0.00	0.14
Imm. X Wholesale/retail	0.19 (**)	0.09	-0.09	0.17
Imm. X Hotels/restaurants	0.28 (**)	0.11	0.18	0.21
Imm. X Transportation /com.	-0.06	0.12	0.32	0.23
Imm. X Financial interm.	-0.04	0.14	0.58 (**)	0.27
Imm. X Real estate & bus.	0.06	0.08	0.07	0.17
Imm. X Public admin.	0.41 (**)	0.16	-0.12	0.31
Imm. X Education	0.30 (**)	0.13	0.08	0.25
Imm. X Health and social work	0.03	0.14	0.64 (**)	0.27
Imm. X Community social per.	-0.19	0.22	0.43	0.40
Imm. X Private households	3.44 (**)	1.46	-0.79	2.64
Imm. X Agriculture	0.11	0.08	0.50 (***)	0.16
Imm. X Extra-territorial org.	Ref		Ref	

Note: (**) : significant coefficients at 5%, (***) : significant coefficients at 1%.

Table4c. Multilevel regression of ISEI for immigrants and natives of both genders in Greece: Relative group size effects and unexplained variance.

	Model 1: Males		**Model 2: Females**	
	Estimate	**Std. Error**	**Estimate**	**Std. Error**
Endogenous effects				
Albanians X % Albanians	-0.35 (**)	0.13	-0.16	0.26
Bulgarians X % Bulgarians	-3.06 (***)	0.92	-1.94	1.01
Romanians X % Romanians	-0.27	1.87	-5.59 (**)	2.66
Georgians X % Georgians	-0.13	1.43	-2.56	1.99
Russians X % Russians	-5.49	3.47	2.42	4.70
Exogenous effects				
Albanians X % Bulgarians	-1.18 (**)	0.50	-0.60	0.87
Albanians X % Romanians	1.65	0.94	-2.72	1.74
Albanians X % Georgians	0.10	0.70	-1.91	1.33
Albanians X % Russians	2.47	1.34	8.28 (***)	2.59
Bulgarians X % Albanians	-0.11	0.33	-1.11 (***)	0.33
Bulgarians X % Romanians	1.37	1.32	-2.29	1.64
Bulgarians X % Georgians	0.64	1.73	-3.85 (**)	1.91
Bulgarians X % Russians	1.80	4.53	14.04 (***)	4.45
Romanians X % Albanians	-0.19	0.41	-0.59	0.55
Romanians X % Bulgarians	-1.76	1.52	-2.06	2.01
Romanians X % Georgians	1.60	2.16	0.15	3.61
Romanians X % Russians	0.69	4.02	22.99 (***)	7.99
Georgians X % Albanians	-0.46	0.36	-1.36 (***)	0.46
Georgians X % Bulgarians	0.47	1.88	-0.92	2.25
Georgians X % Romanians	-2.90	3.34	-2.22	4.06
Georgians X % Russians	-1.38	3.83	5.25	5.28
Russians X % Albanians	-0.16	0.39	-0.23	0.47
Russians X % Bulgarians	1.09	2.92	-3.88	2.67
Russians X % Romanians	-5.36	4.27	-1.35	3.98
Russians X % Georgians	-0.44	1.59	-0.66	2.12
Variance (re. respondent)	115.77		129.50	
Variance (re. prefecture)	0.38		0.28	
Log Likelihood	-904651.3		-551201.3	
Number of respondents	263599		159446	
Number of prefectures	53		53	

Note: (**) : significant coefficients at 5%, (***) : significant coefficients at 1%.

Table 5. Relative group sizes of immigrants and natives in the prefectures of Greece

Prefecture name	Total population	% Alb.	% Bul.	% Rom.	% Geo.	% Rus.	% Natives
Achaia	325,232	3.8	0.1	0.1	0.0	0.1	93.6
Aghion oros*	2,269	4.0	0.8	3.4	0.9	4.1	79.4
Argolida	106,593	4.4	0.8	0.7	0.3	0.2	90.1
Arkadia	102,748	2.4	0.4	0.2	0.0	0.0	95.6
Arta	78,605	2.5	0.0	0.0	0.0	0.0	97.1
Athens	2,711,566	5.4	0.4	0.3	0.1	0.2	88.3
Chalkidiki	105,330	4.9	0.6	0.1	1.8	0.5	90.4
Chania	151,795	2.9	1.0	0.5	1.2	0.4	89.9
Chios	54,465	1.9	0.1	0.1	0.0	0.1	94.0
Dodekanisos	191,712	3.8	0.4	0.1	0.1	0.2	88.6
Drama	104,589	1.3	0.2	0.0	0.5	0.4	97.0
East Attiki	408,806	6.8	0.2	0.2	0.1	0.5	87.9
Etolia & Akarnania	225,706	2.6	0.1	0.0	0.0	0.0	96.3
Evia	216,340	3.3	0.3	0.2	0.0	0.1	94.2
Evros	150,110	0.1	0.3	0.0	0.3	0.2	97.9
Evrytania	32,130	1.2	0.1	0.2	0.0	0.0	97.4
Florina	55,135	3.5	0.0	0.0	0.1	0.1	95.1
Fokida	48,516	4.2	0.4	0.1	0.2	0.1	93.2
Fthiotida	179,501	5.5	0.7	0.5	0.0	0.1	92.3
Grevena	38,146	2.3	0.0	0.0	0.1	0.0	96.8
Heraklion	294,661	2.6	0.6	0.4	0.2	0.1	93.6
Ilia	193,925	3.5	1.0	0.4	0.0	0.1	93.6
Imathia	144,621	2.4	0.2	0.1	0.3	0.3	96.1
Ioannina	171,970	4.2	0.0	0.0	0.0	0.0	94.6
Karditsa	130,143	1.7	0.1	0.1	0.0	0.0	97.7
Kastoria	54,128	2.9	0.0	0.0	0.1	0.1	95.3
Kavala	146,408	2.9	1.0	0.1	0.7	0.4	93.3
Kefallinia	40,064	5.4	0.3	0.1	0.1	0.1	90.0
Kerkyra	112,936	5.9	0.1	0.1	0.0	0.1	90.5
Kilkis	89,656	1.8	0.2	0.1	1.0	0.4	95.4
Korinthia	155,532	7.0	0.2	0.4	0.1	0.1	90.1
Kozani	156,180	1.8	0.0	0.0	0.1	0.2	97.2
Kyklades	113,776	6.6	0.4	0.3	0.1	0.1	89.2
Lakonia	100,252	2.6	2.1	1.8	0.2	0.2	88.8
Larissa	281,389	4.3	0.1	0.2	0.0	0.1	94.4
Lasithi	76,713	3.9	2.3	0.4	0.2	0.1	90.2
Lefkada	22,564	4.7	0.1	0.2	0.0	0.1	92.4
Lesvos	109,593	2.7	0.5	0.1	0.1	0.2	94.2
Magnissia	209,026	4.4	0.5	0.2	0.1	0.1	93.2
Messinia	177,806	3.9	1.4	0.9	0.1	0.1	91.3
Pella	146,649	3.1	0.3	0.0	0.7	0.3	94.7
Pieria	130,328	2.7	0.3	0.2	0.4	0.4	94.2
Pireas	549,224	4.7	0.2	0.2	0.1	0.3	91.7
Preveza	59,779	5.1	0.0	0.1	0.0	0.0	93.8
Rethymno	82,402	3.8	0.6	0.5	0.2	0.2	90.5
Rodopi	111,640	0.2	0.1	0.1	0.3	0.2	98.2
Samos	44,033	3.1	0.2	0.1	0.0	0.1	93.1
Serres	202,004	1.1	0.2	0.0	0.5	0.2	97.3
Thesprotia	46,230	5.2	0.0	0.0	0.0	0.1	93.7
Thessaloniki	1,071,891	3.0	0.3	0.1	1.3	0.7	92.4
Trikala	139,422	1.9	0.0	0.1	0.0	0.0	97.3
Viotia	131,771	6.1	0.2	0.7	0.0	0.2	89.8
West Attiki	152,889	5.8	0.1	0.2	0.2	0.9	90.7
Xanthi	103,140	0.3	0.1	0.0	0.5	0.3	97.8
Zakynthos	39,397	10.0	0.3	0.2	0.0	0.1	85.4

**: Excluded from analysis*

Source: 2001 Greek population census, EKKE database (EKKE, 2006).

Table 6a. The 10 largest occupational concentrations for male immigrants and natives in Greece

Occupation description	% ALB.	% BUL.	%ROM.	%GEO.	%RUS.	%NATIVES
Armed forces						1.67
Managers in small retail and wholesale businesses						**4.67**
Professionals in financing services and sales						1.50
Other office workers						1.86
Skilled personal service workers (waiters-tresses)						1.91
Skilled salesmen in shops	2.81				2.64	**3.70**
Skilled agricultural workers (greenhouse, flower and Garden workers)	2.51	3.28	2.21			1.49
Skilled agricultural workers (different trees and plants)						2.24
Skilled construction workers (builders)	**12.74**	**5.19**	**8.02**	**15.99**	**9.57**	2.27
Skilled construction workers (cement floors etc)	4.67		4.21	4.32	4.13	
Skilled construction workers (plasterers, gypsum craftsmen)	3.11		4.11	3.62		
Skilled construction workers (other)	2.90		3.31	4.78	2.64	
Skilled construction workers (painters polishers etc)	4.24	2.82	5.92	**5.02**	3.14	
Skilled iron-smiths tool constructors etc		1.91	3.31	2.68		
Skilled mobile machinery operators, drivers etc		2.73			**6.11**	**6.17**
Unskilled domestic workers		3.01			2.31	
Unskilled agricultural and fishing workers etc	**15.37**	**34.52**	**19.16**	3.27	2.48	
Unskilled mining and construction workers	**10.39**	**6.01**	**9.53**	**11.79**	**6.11**	
Unskilled manufacturing workers	2.63	2.73	4.21	4.67	5.12	
Unskilled porters, harbour workers etc		2.46		1.87		

Source: 10% sample data from the 2001 Greek population census.

Note: Blank cells indicate smallest than 10 largest occupational concentrations, not necessarily 0, the three largest occupational concentrations are in bold.

Table 6b. The 10 largest occupational concentrations for female immigrants and natives in Greece

Occupation description	%ALB.	%BUL.	%ROM.	%GEO.	%RUS.	NATIVE
Managers in small retail and wholesale businesses						3.82
Skilled health workers (doctors)			1.36			
Secondary education teachers						3.04
Management clerks, lawyer assistants etc						2.79
Skilled office workers (stenographers, typists and Keyboard equipment operators)					1.48	**4.47**
Skilled accounting workers etc						3.45
Other office workers						3.35
Cash registers, etc.						2.16
Skilled personal services (housekeepers, chambermaids etc)	1.28			1.66		
Skilled personal service workers (cooks)	2.94	1.55	2.71	3.47	2.62	
Skilled personal service workers (waiters-tresses)	3.36	**6.57**	**8.72**	**5.83**	**8.36**	
Skilled personal service workers (personal care etc)	2.96	5.02	2.13	**7.21**	**5.25**	
Skilled salesmen-women in shops	**3.57**	1.92	2.91	2.50	3.93	**7.68**
Skilled agricultural workers (greenhouse, flower and garden workers)	2.54	2.80	1.36		1.64	
Skilled agricultural workers (olive growers etc)		1.62				
Skilled agricultural workers (different trees and plans)			2.13			2.76
Skilled garment workers (tailors etc)			1.36			
Skilled garment workers (sewing workers etc)	2.03			4.02	**5.25**	
Skilled manufacturing workers (machinery operators)				1.53		
Unskilled domestic workers	**45.23**	**39.11**	**28.49**	**43.69**	**29.02**	**3.95**
Unskilled agricultural and fishing workers etc	**6.57**	**17.20**	**13.57**	2.36	1.80	
Unskilled mining and construction workers		1.11				
Unskilled manufacturing workers	2.03	2.44		3.61	4.43	

Source: 10% sample data from the 2001 Greek population census.

Note: Blank cells indicate smallest than 10 largest occupational concentrations, not necessarily 0, the three largest occupational concentrations are in bold.

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